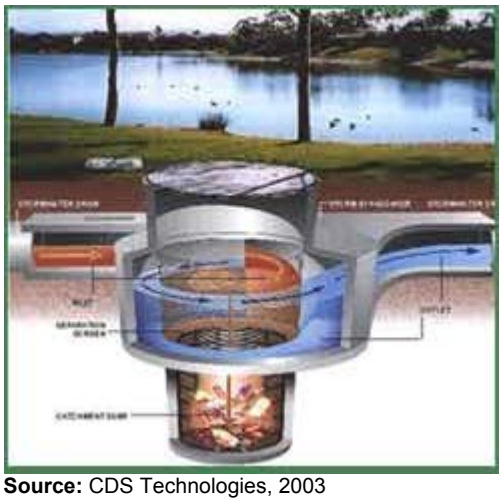
Hydrodynamic Separators



Source: CDS Technologies, 2003

General Description

Hydrodynamic separators are flow-through structures with a settling or separation unit to remove sediments and other pollutants. The separation of sediments may be achieved either by the swirling action of flowing water or by indirect filtration. These systems are most effective at removing heavy particulates, which can be settled, or floatables, which can be captured. The four major types of hydrodynamic separator systems available from vendors include: 1) Continuous Deflective Separators (CDS); 2) Downstream Defender™; 3) Stormceptor®; and 4) Vortex Separator™.

Inspection/Maintenance Considerations

Hydrodynamic separators do not have any moving parts, and are consequently not maintenance intensive. Maintenance is important however, to ensure the system is operating as efficiently as possible. Proper maintenance involves frequent inspections throughout the first year of installation, especially after major storm events. The systems are considered full when the sediment level comes within one foot of the unit's top, at which point it must be cleaned out. Removal of sediment can be performed with a sump vac or vacuum truck. Some hydrodynamic separator systems may contribute to mosquito breeding due to the presence of standing water between storms.

Maintenance Concerns, Objectives, and Goals

- ■ Sediment/debris removal
- ■ Vector Control

Targeted Constituents

✓	Sediment	▲
✓	Nutrients	●
✓	Trash*	■
✓	Metals	●
✓	Bacteria	
✓	Oil and Grease**	●
✓	Organics	
✓	Oxygen Demanding	

Legend *(Removal Effectiveness)*

● Low ■ High

▲ Medium

*Some types remove trash.

** Some types are sold with optional absorbent pillows for capturing oil and grease.

Santa Clara Valley
Urban Runoff
Pollution Prevention Program

Inspection Activities	Suggested Frequency
■ Inspect for proper construction	Immediately following construction
■ Inspect for accumulated sediment/debris	As needed
Maintenance Activities	**Suggested Frequency**
■ Removal of accumulated material with a vacuum truck. It may be necessary to remove and dispose of the floatables or absorbent oil pillows separately if petroleum products are present. ■ See vendor's instructions for additional maintenance activities.	Annual, or more frequent as needed

References

Storm Water Technology Fact Sheet. EPA 832-F-99-017, September 1999.

Stormwater Best Management Practice Handbook: Municipal. California Stormwater Quality Association, January 2003.